



1/22

100

OPTICAL  
AMPLIFIER

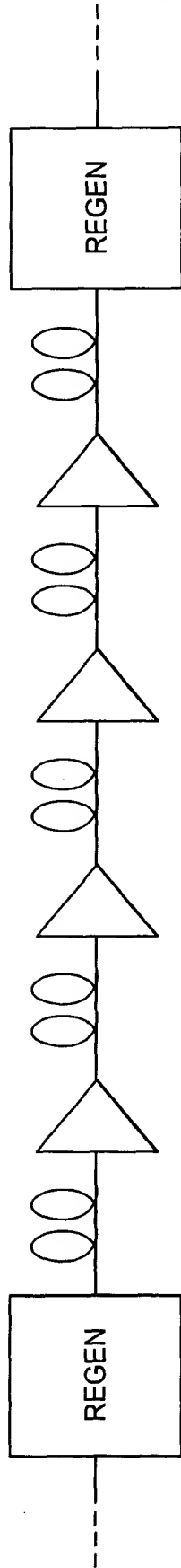


FIG. 1



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200

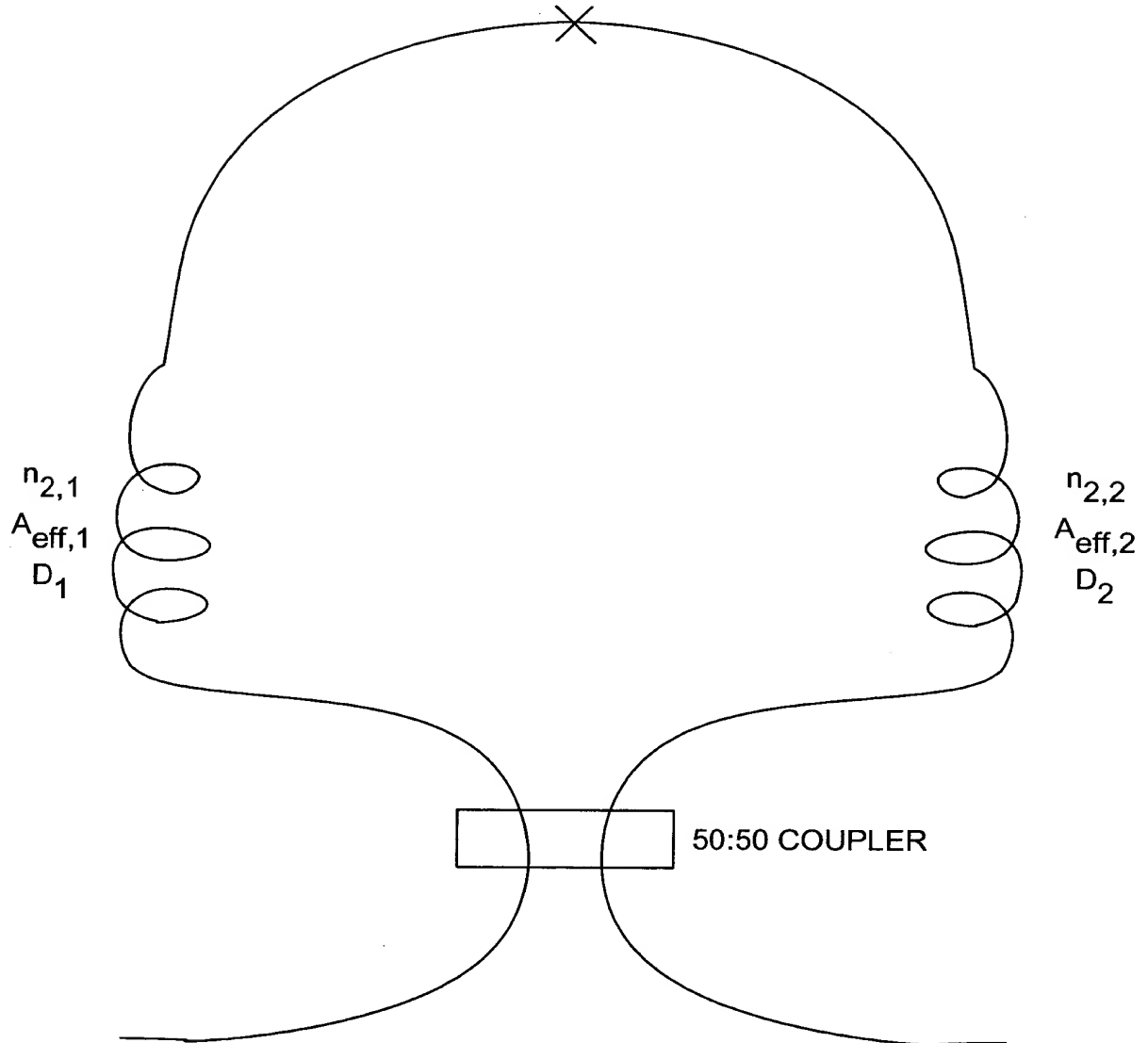


FIG. 2



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FIG. 3A

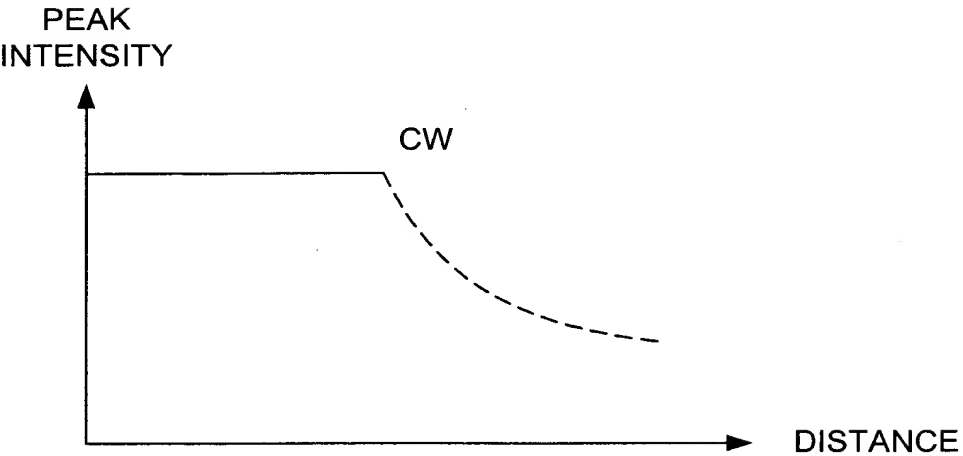


FIG. 3B

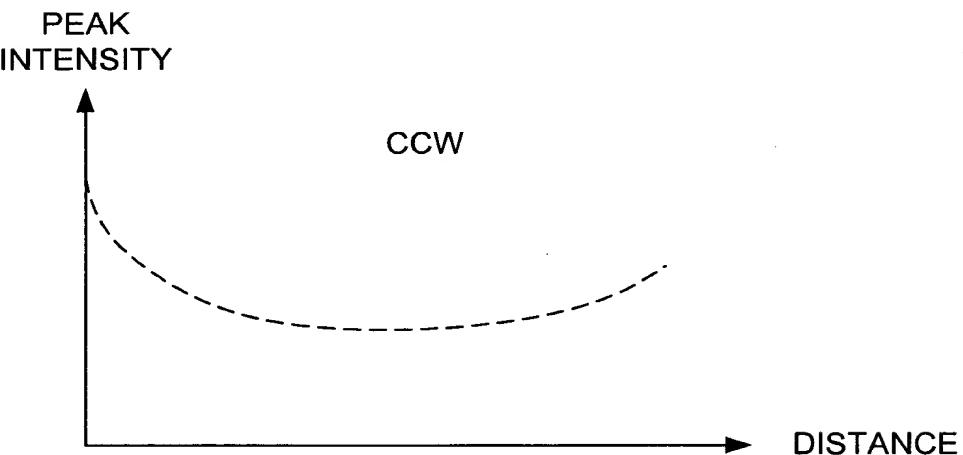
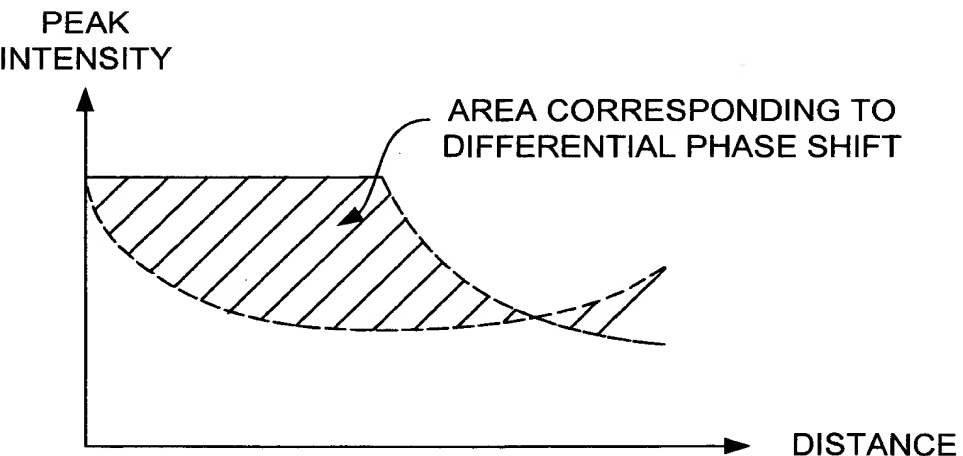


FIG. 3C





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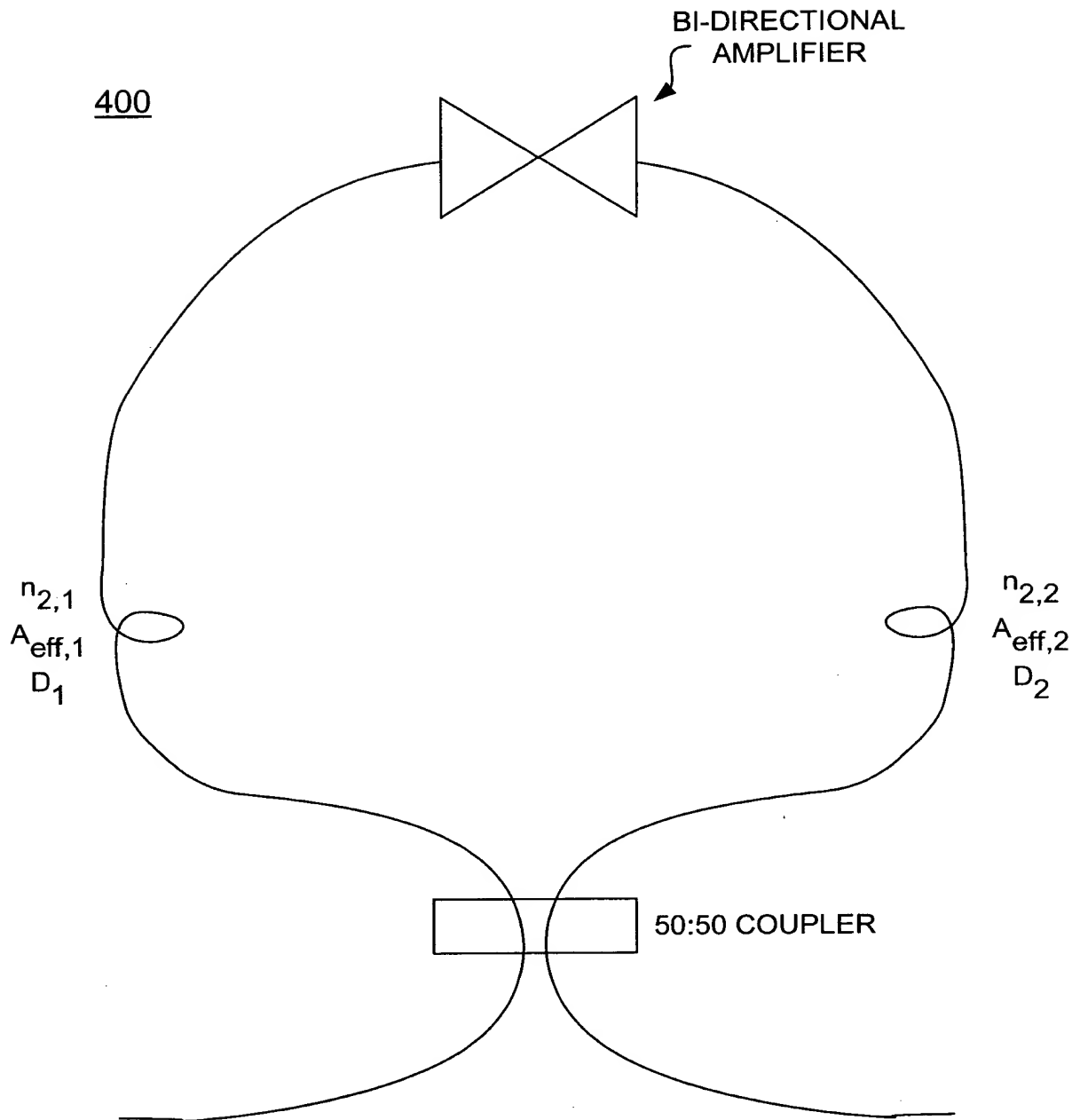


FIG. 4



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500

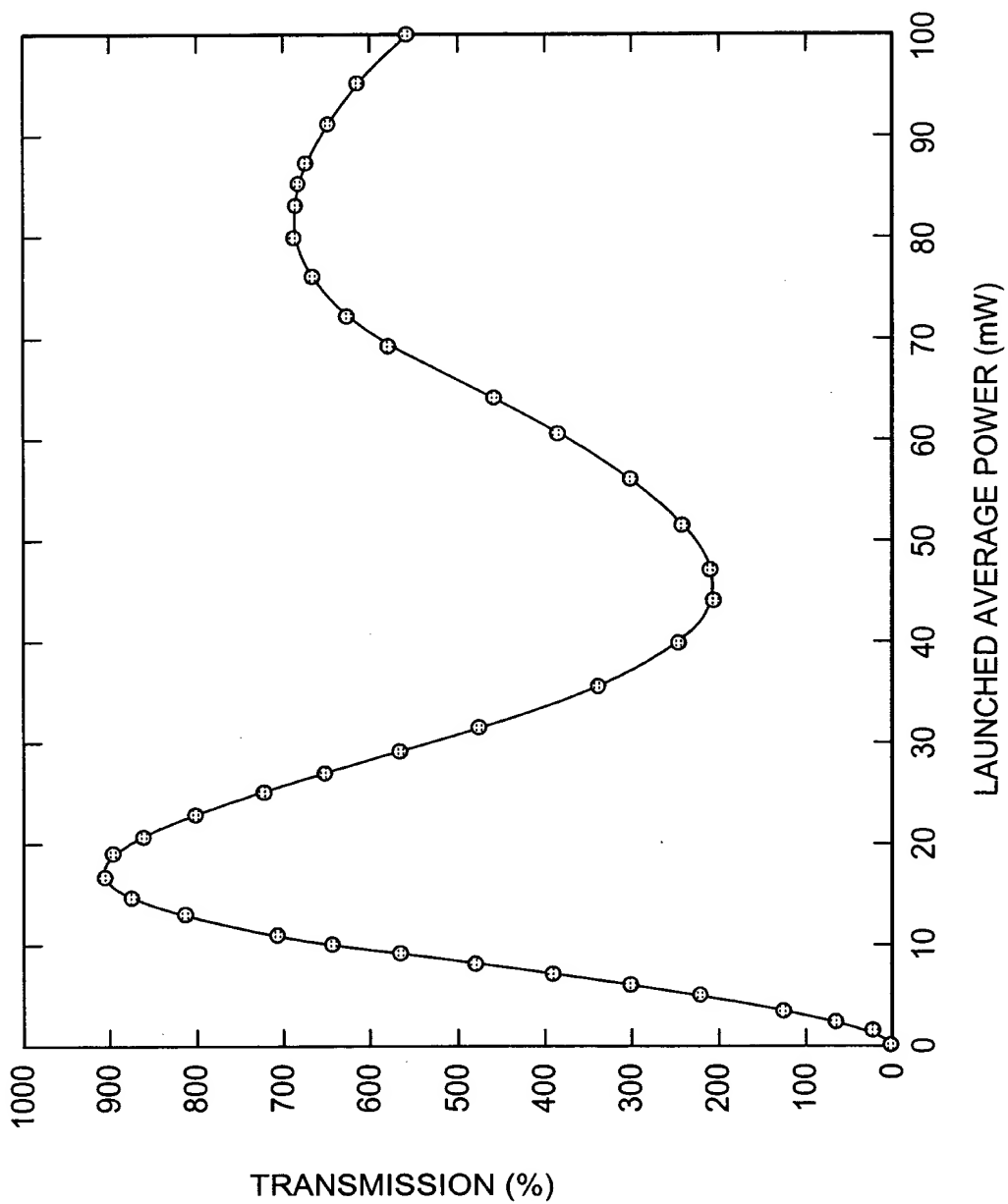


FIG. 5



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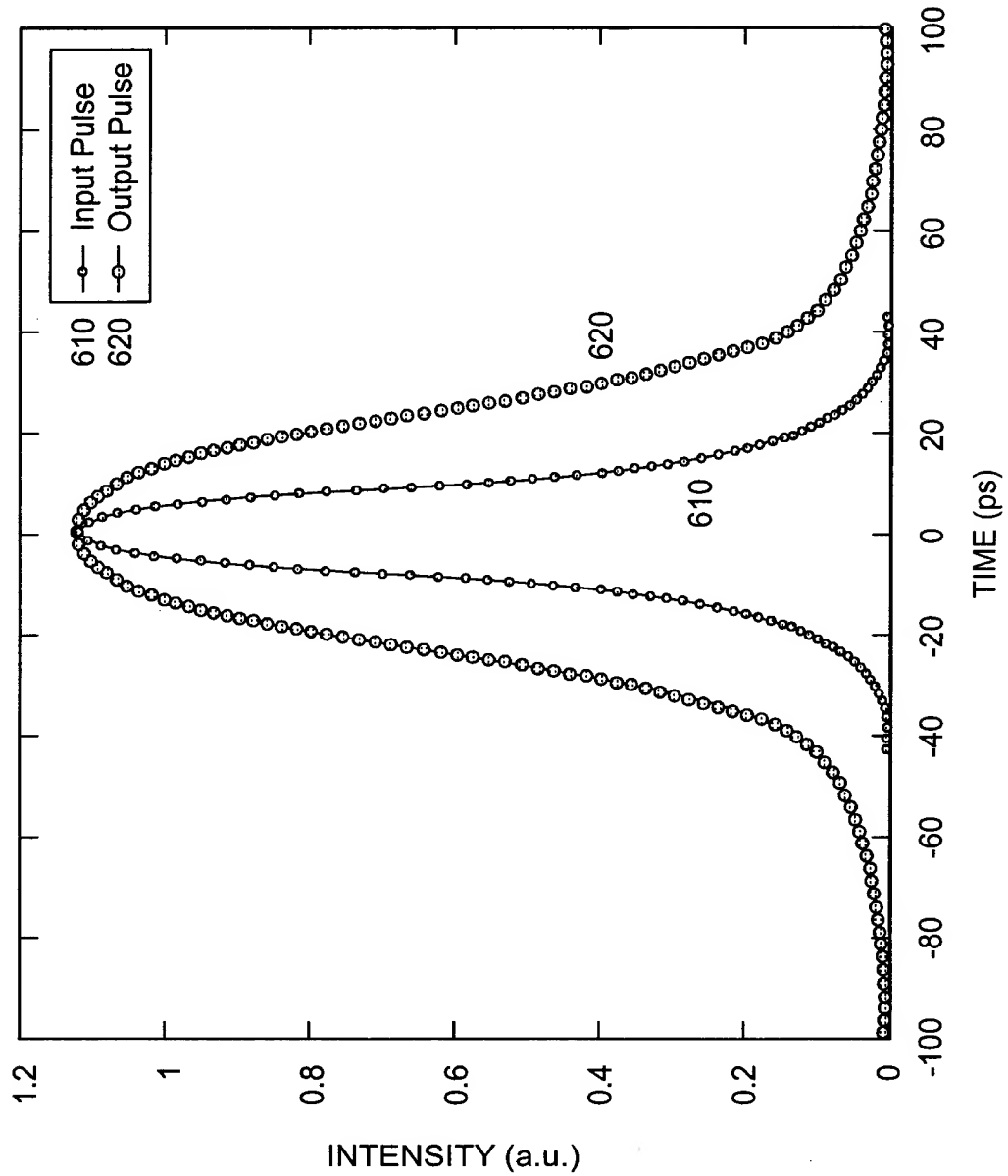


FIG. 6A

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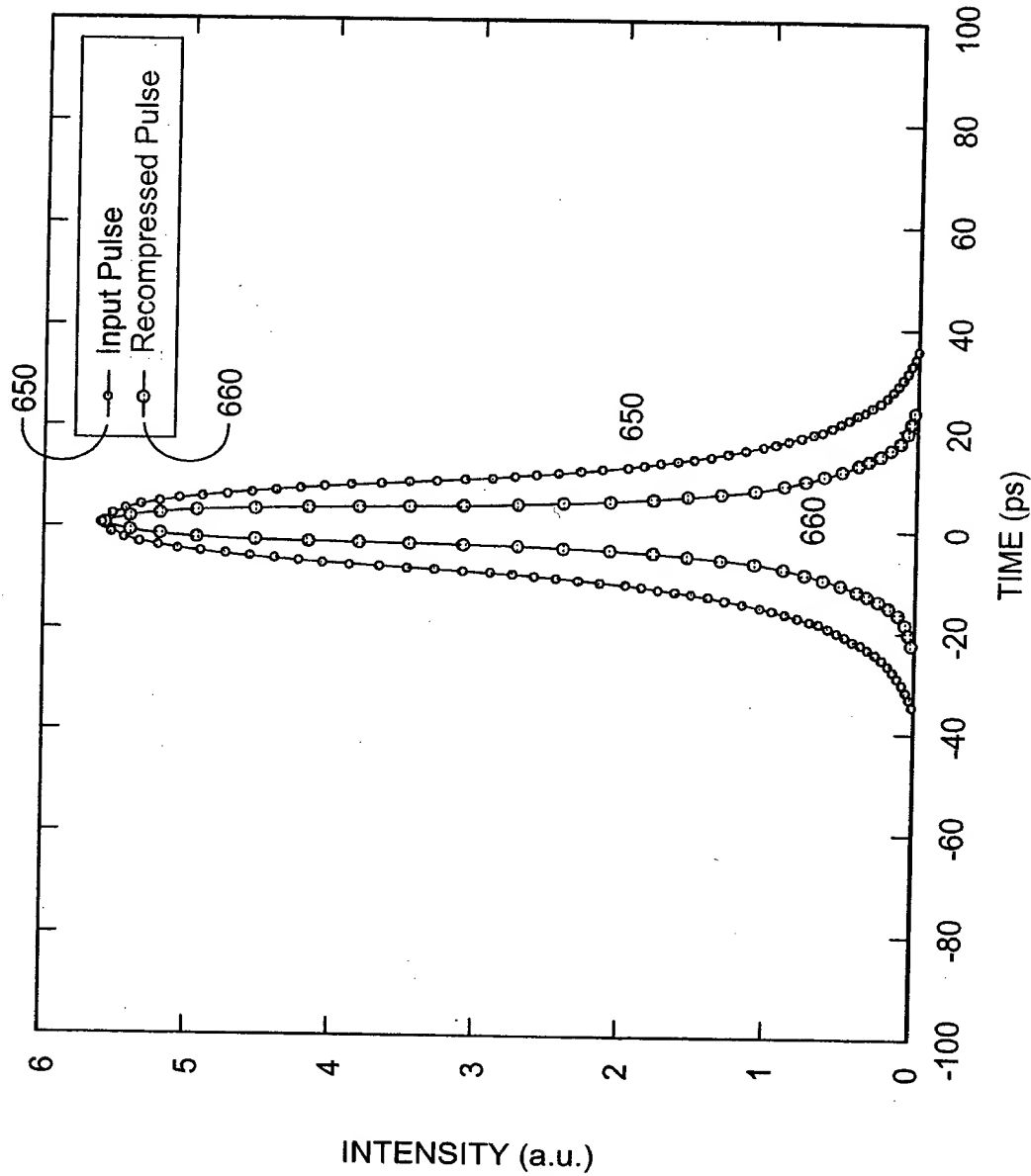


FIG. 6B



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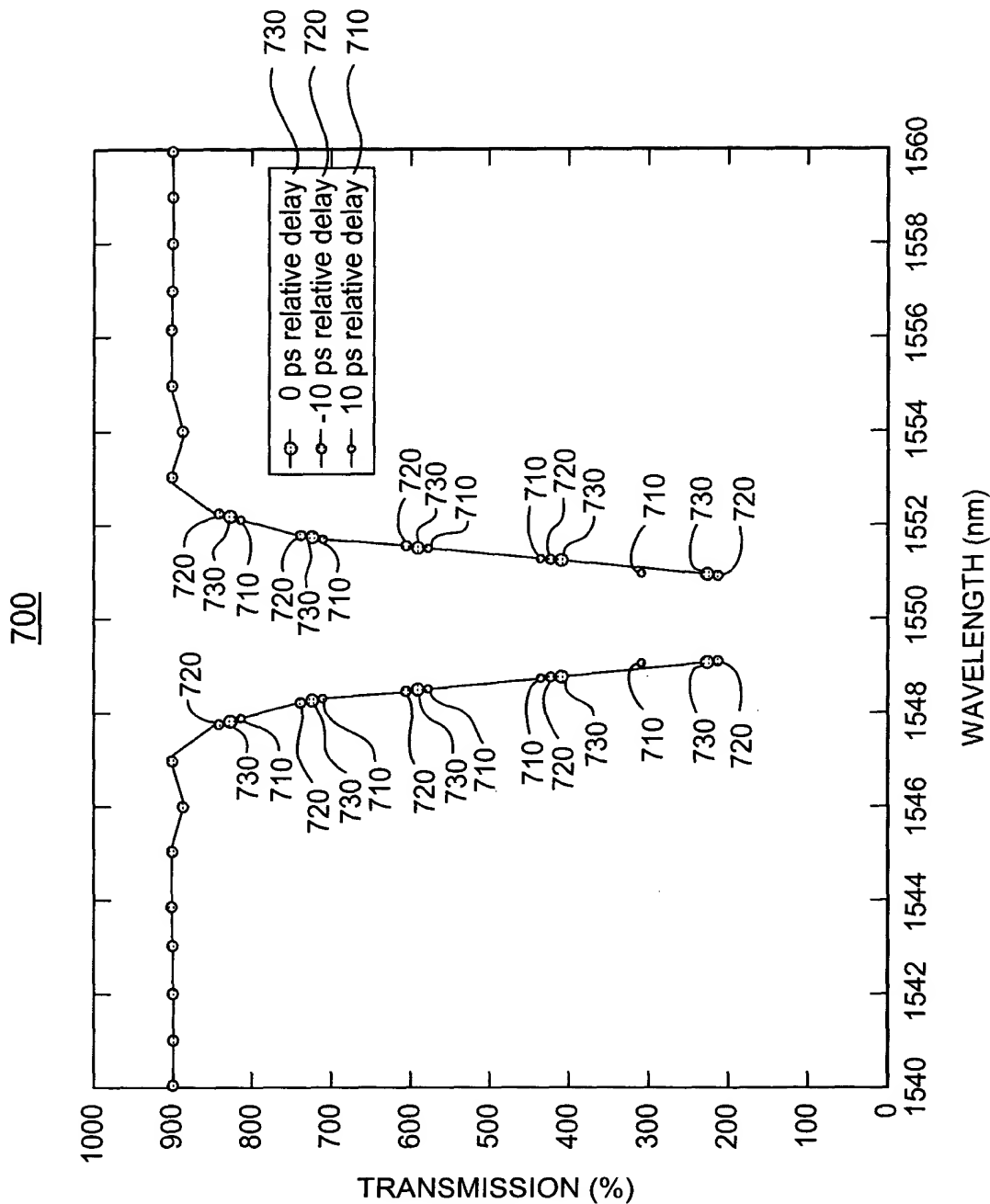


FIG. 7



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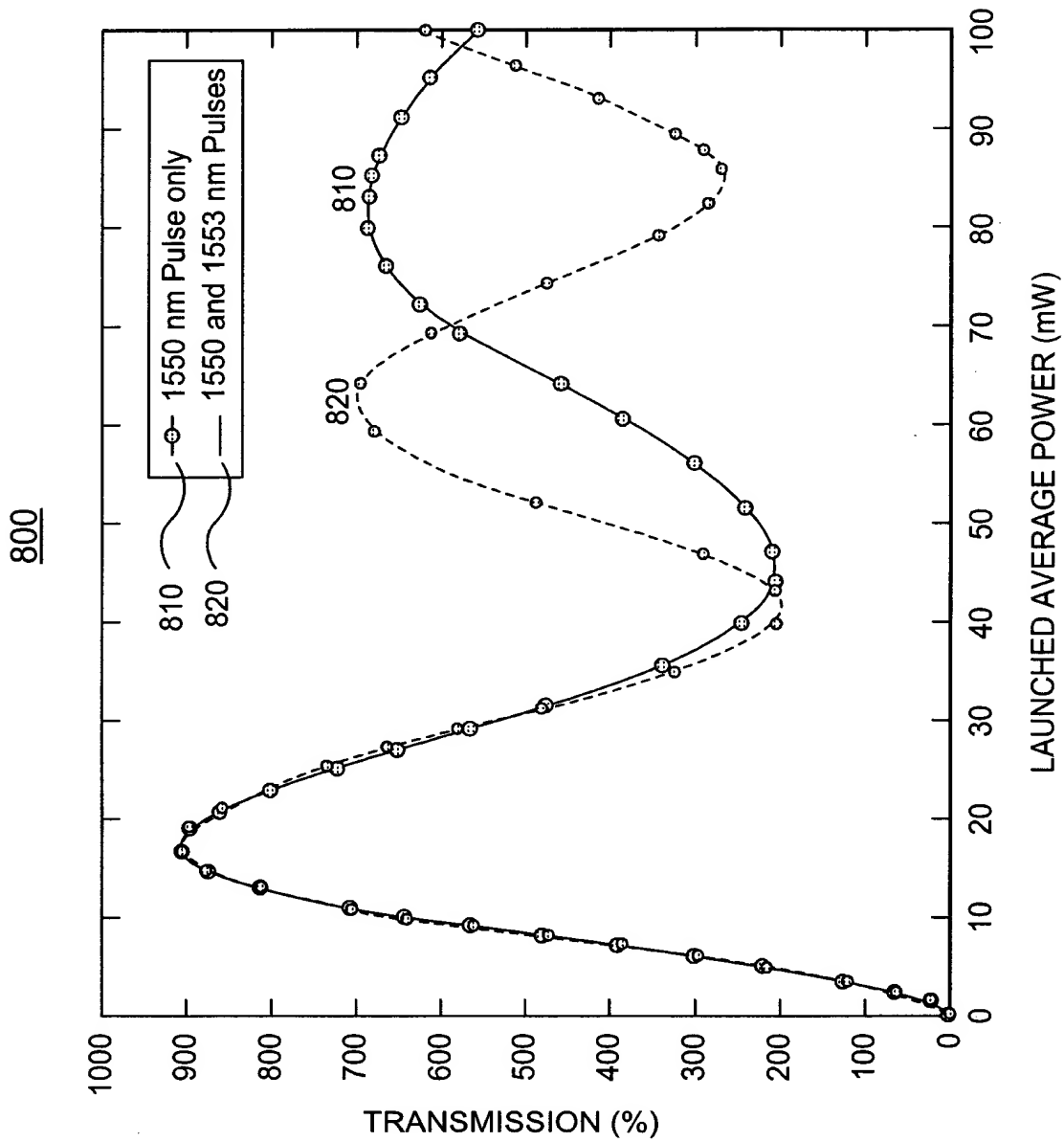


FIG. 8



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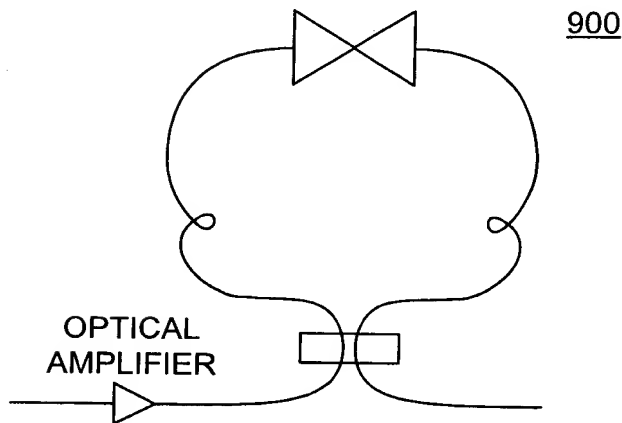


FIG. 9A

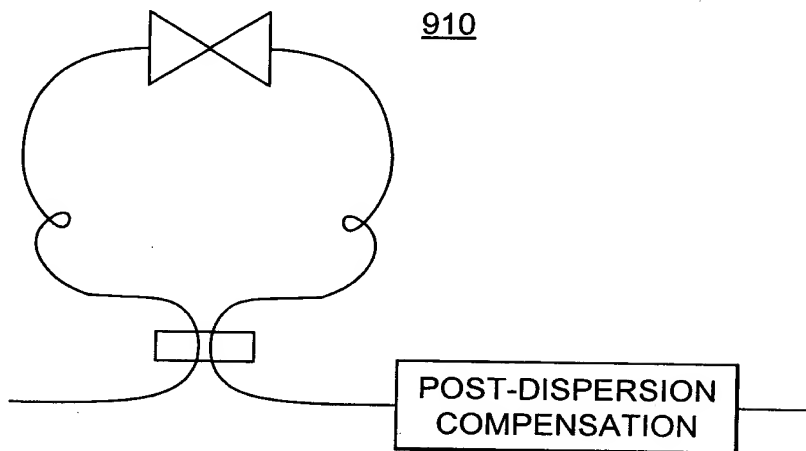


FIG. 9B

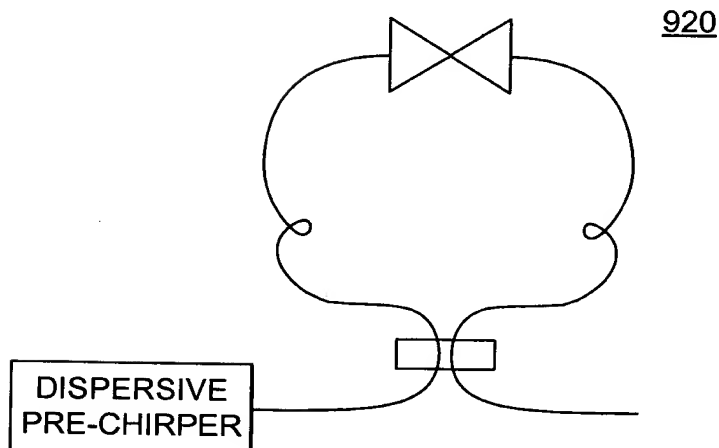


FIG. 9C

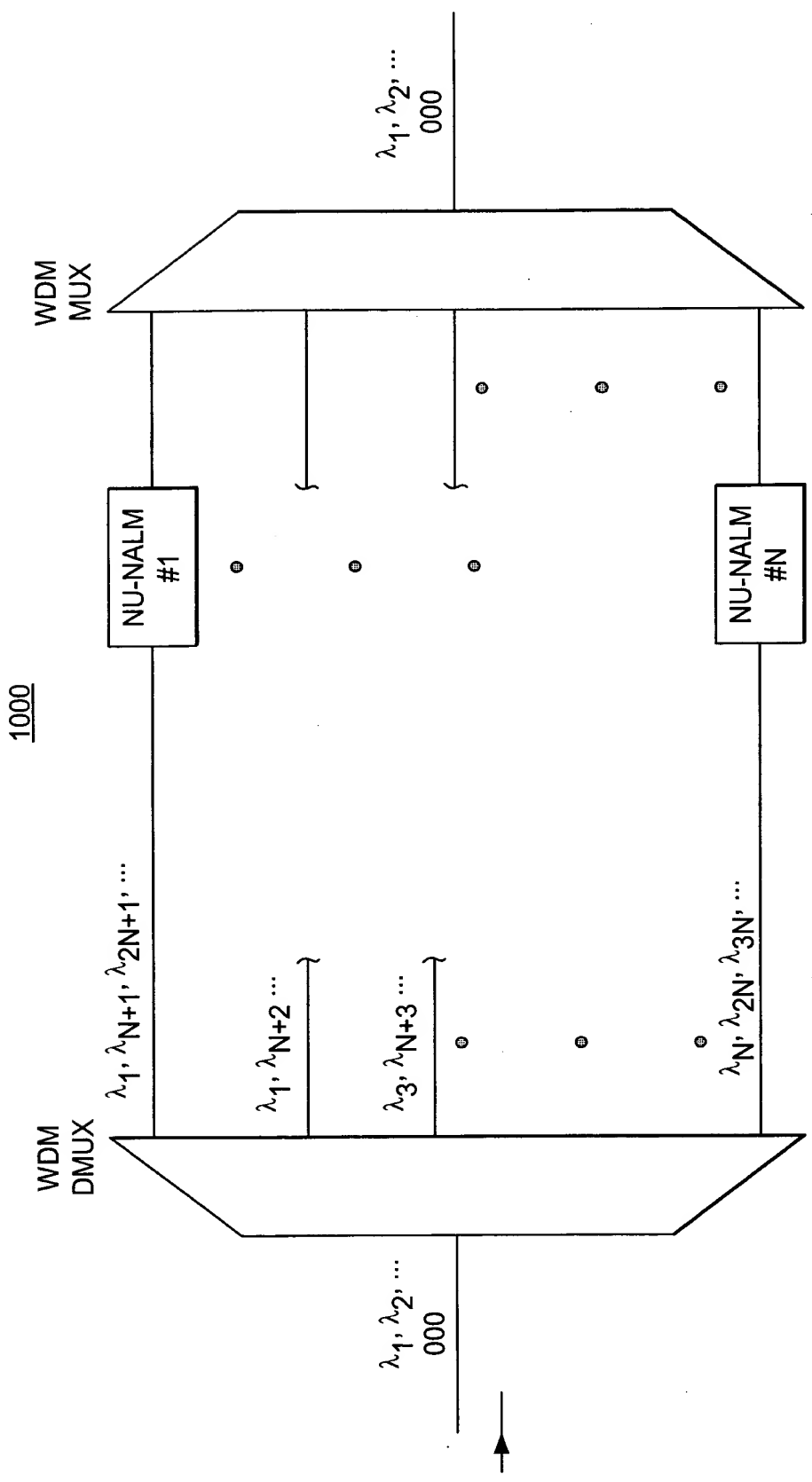


FIG. 10



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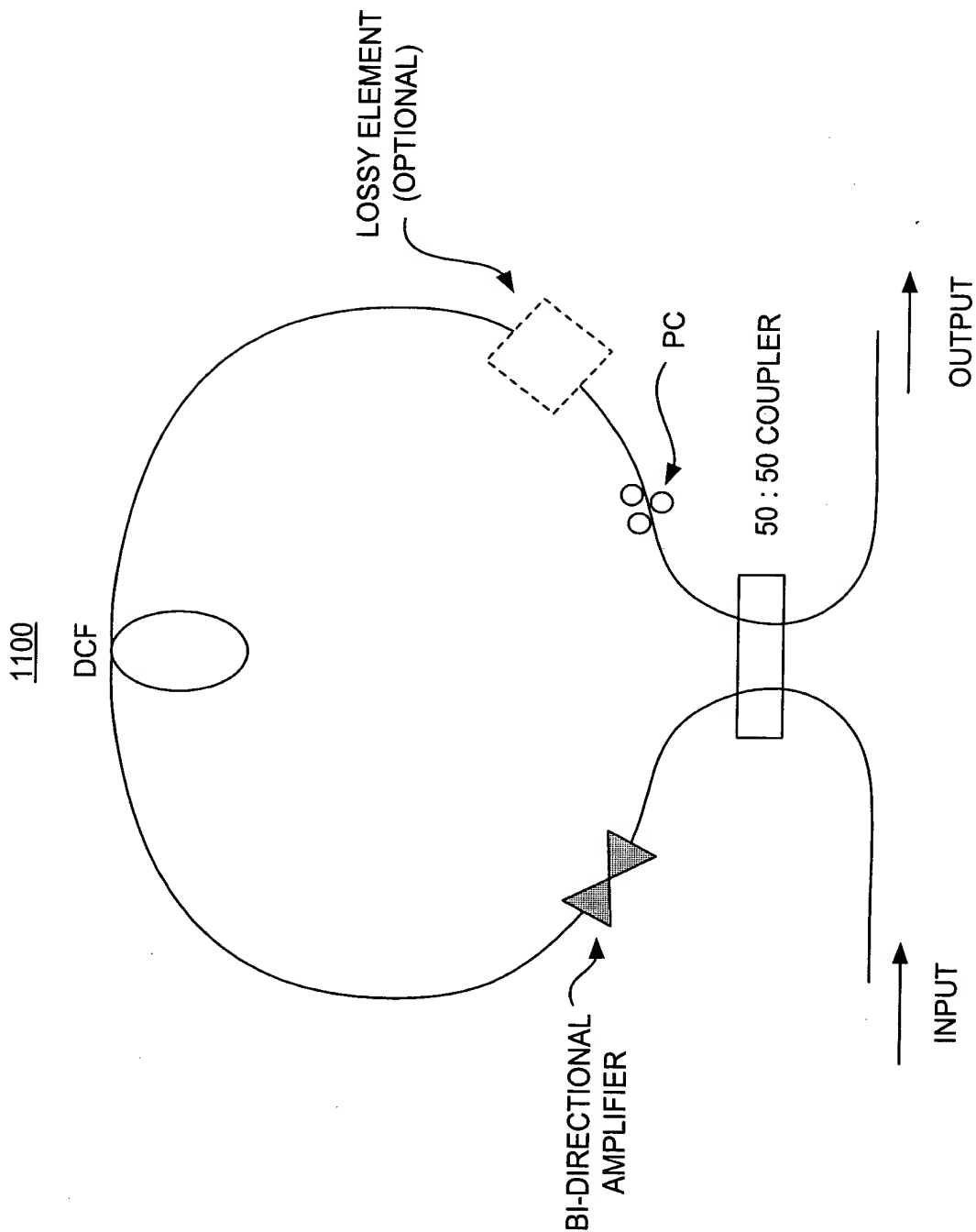


FIG. 11



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1200

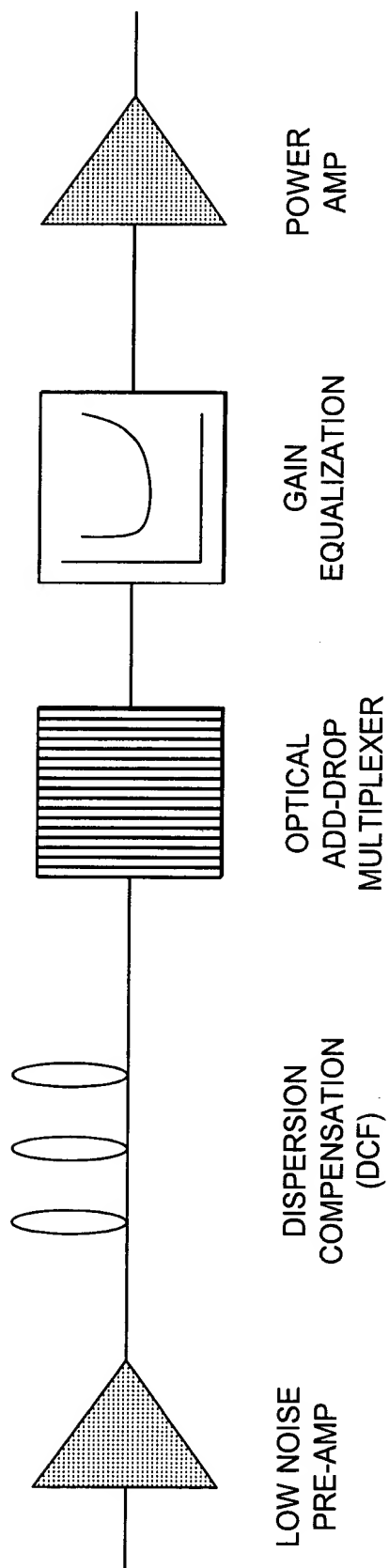


FIG. 12



Appln. S/N 09/784,649  
Atty's Dkt: 069204.0167  
For: **SNR Booster for WDM Systems**  
By: Mohammed N. Islam  
File Date: February 14, 2001 - Page 14 of 22

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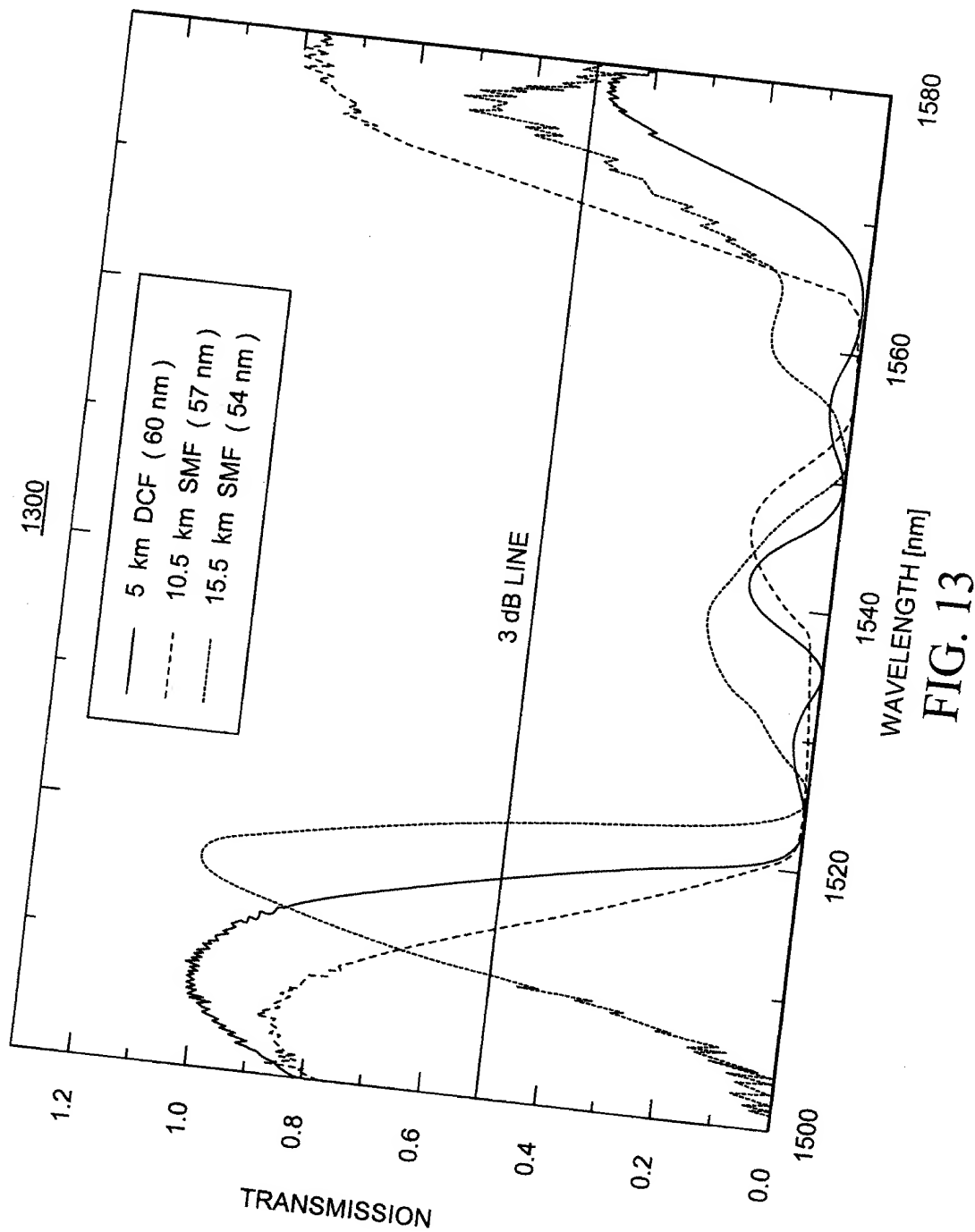


FIG. 13



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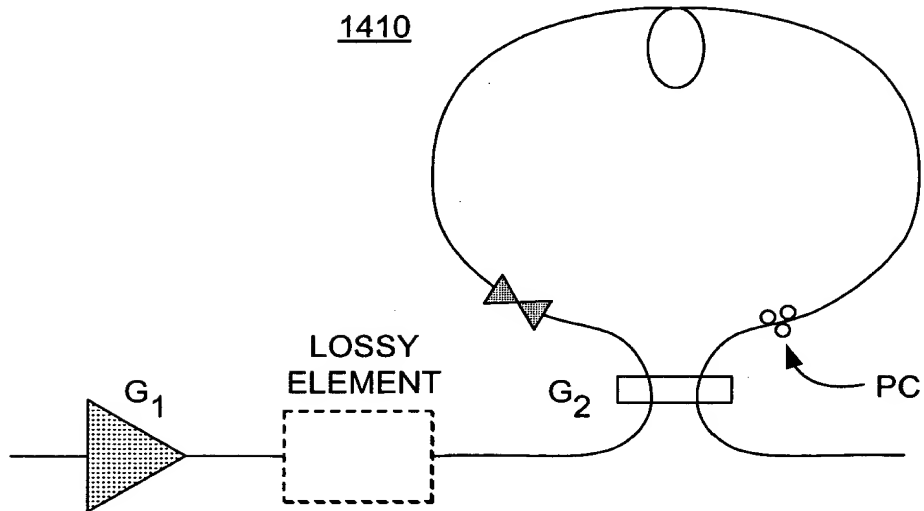


FIG. 14A

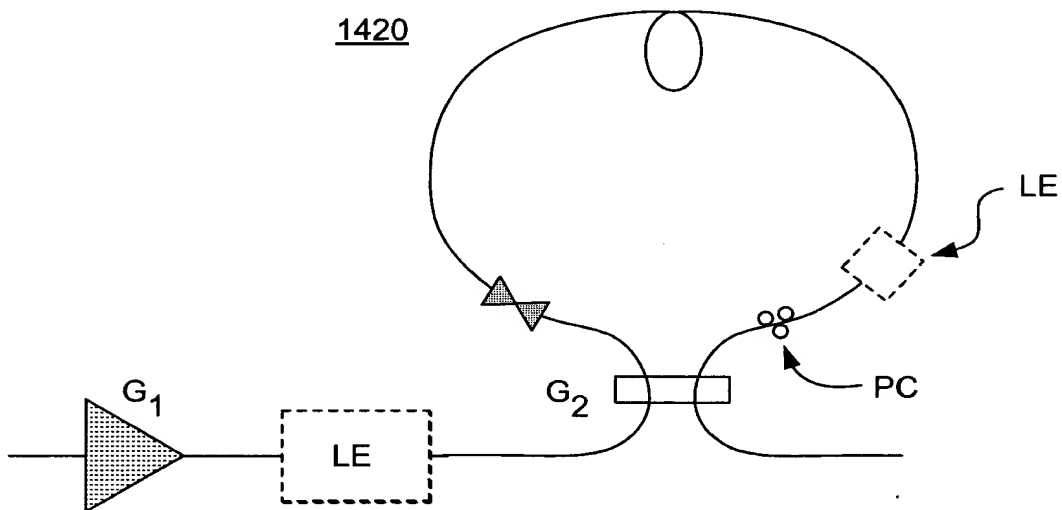


FIG. 14B

1430

$P_{in}$ (dBm)	$G_1$ (dB)	$G_2$ (dB)	$P_{out}$ (dBm)
-11	0	30	9.18
-11	5	25	9.17
-11	10	20	9.16
-11	15	15	9.10

FIG. 14C

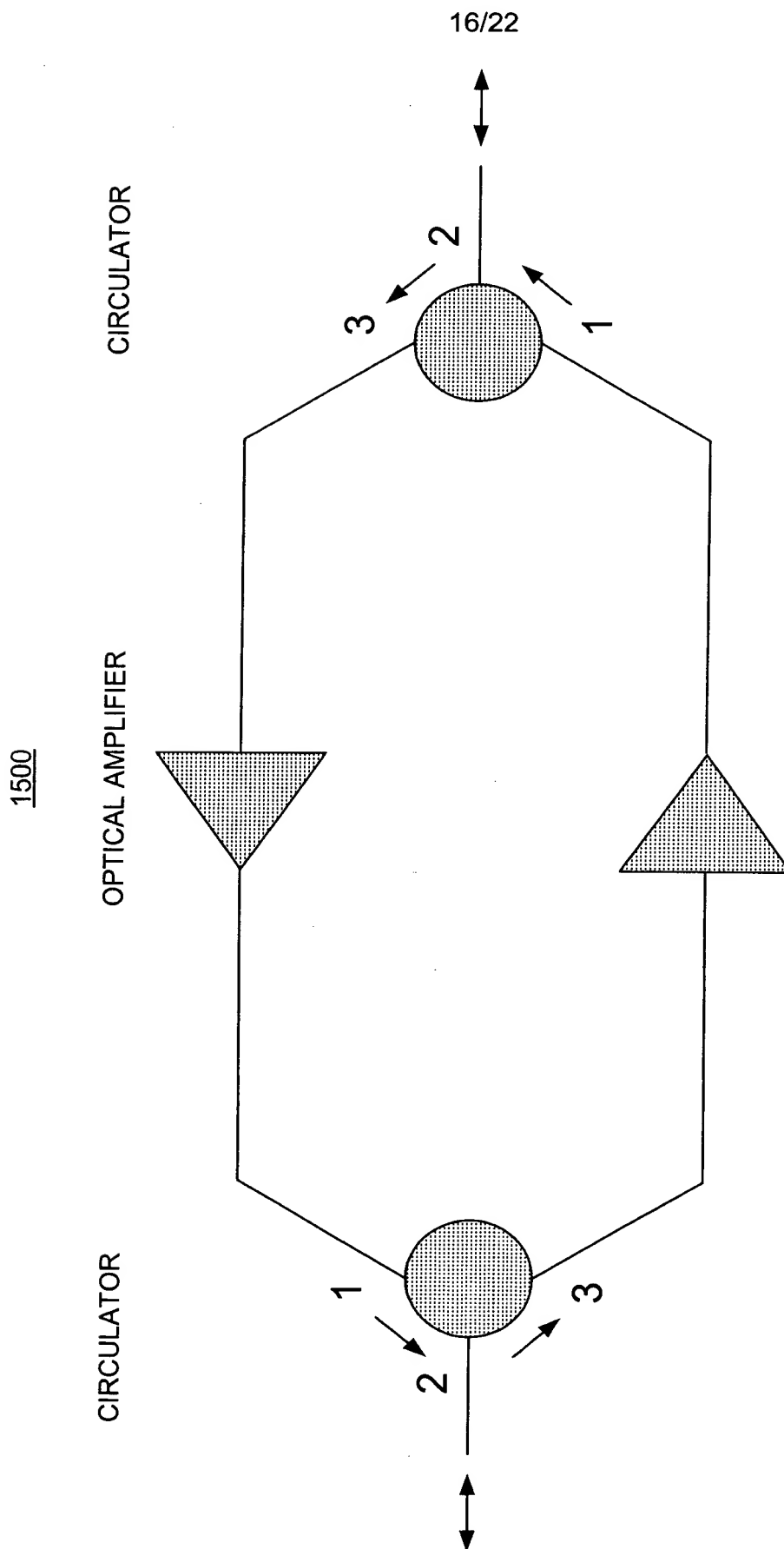


FIG. 15



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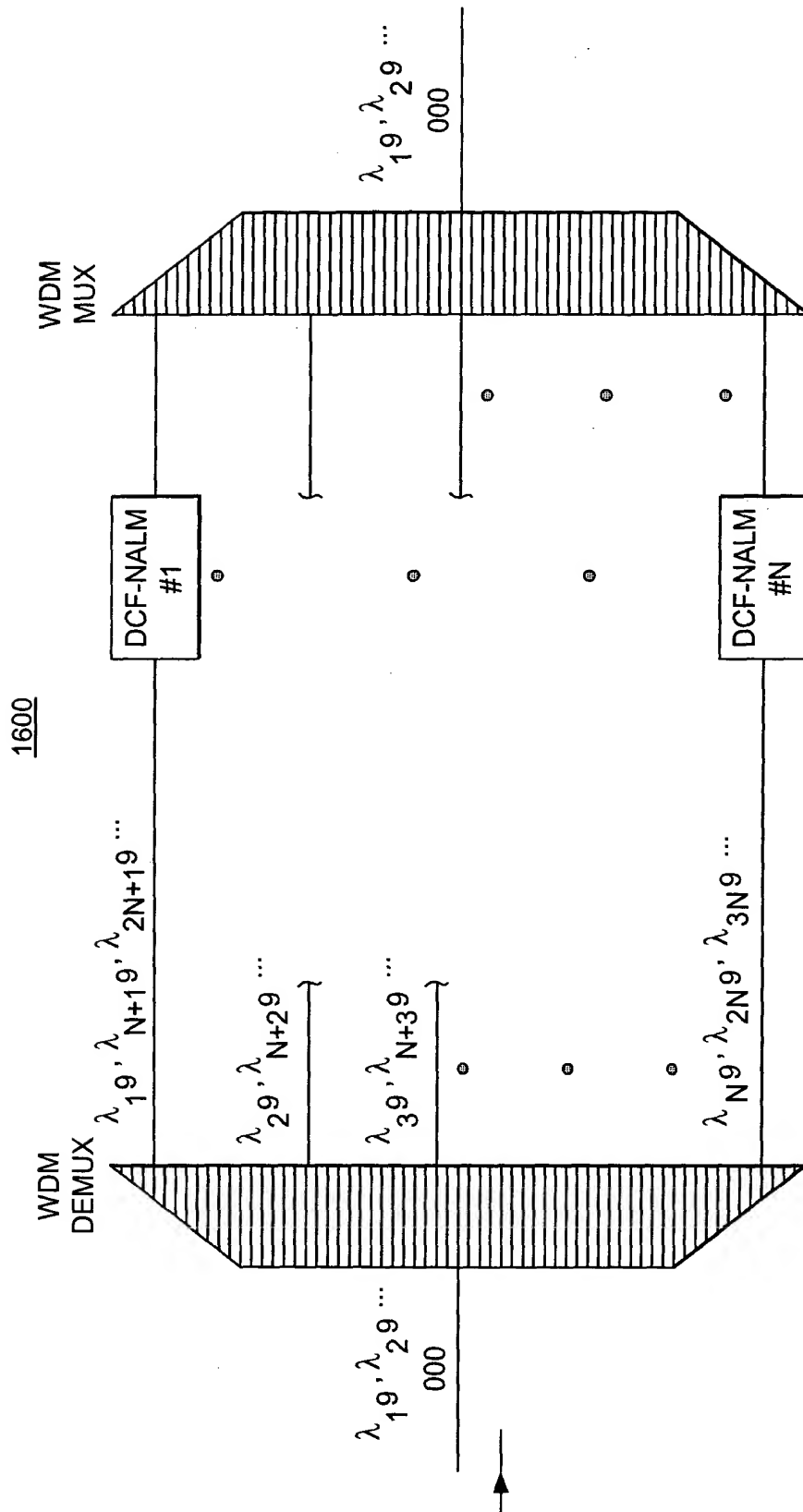


FIG. 16

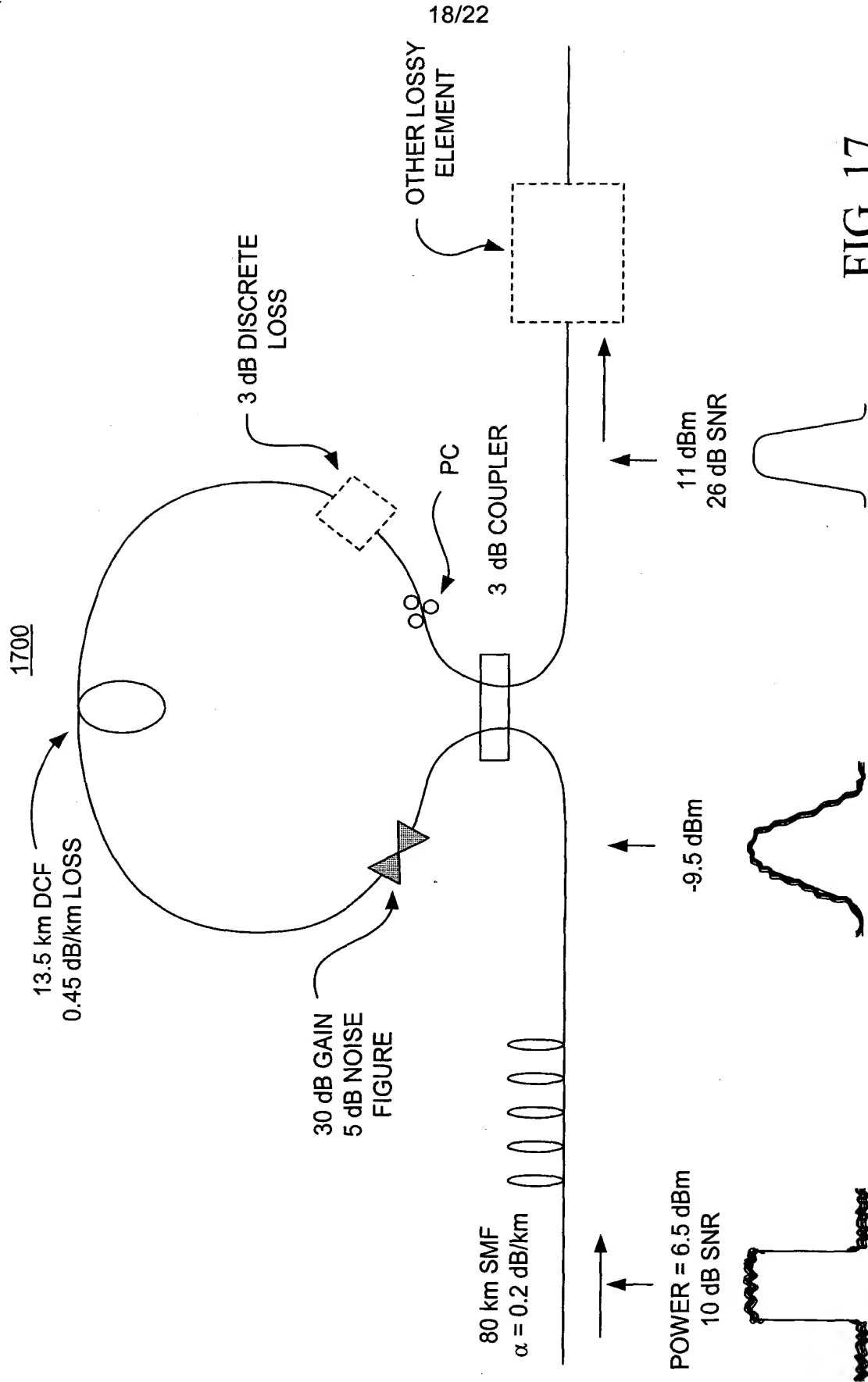


FIG. 17

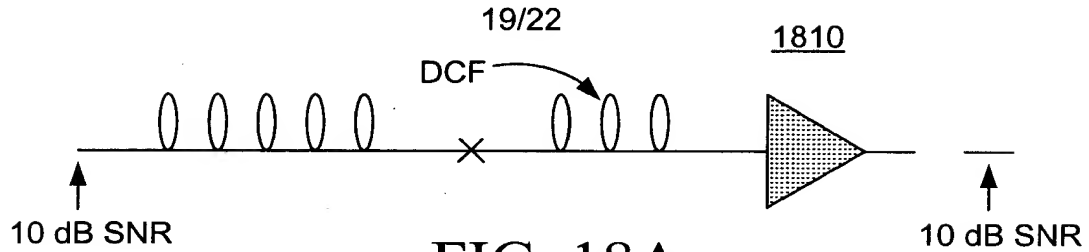
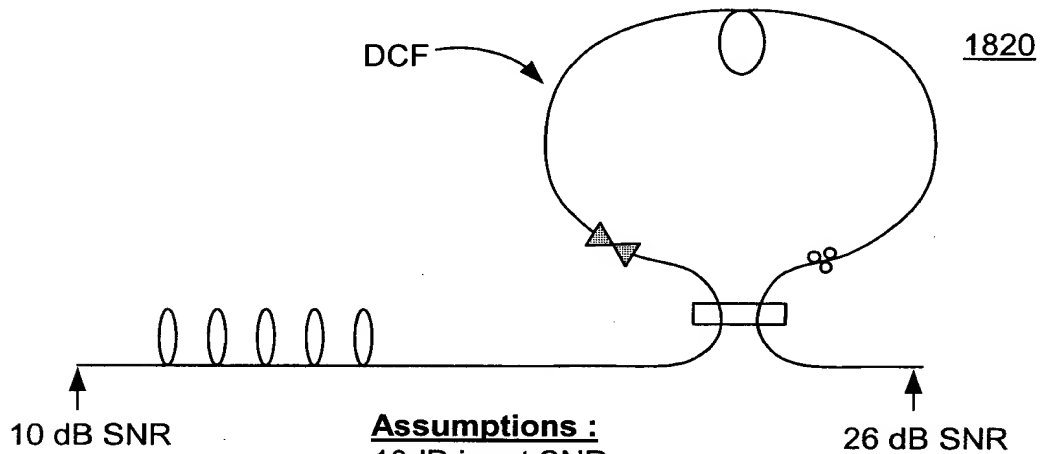


FIG. 18A



**Assumptions :**  
-10dB input SNR  
(5 GHz bandwidth)  
-5 dB amplifier NF

**Results :**  
16 dB improvement in SNR

FIG. 18B

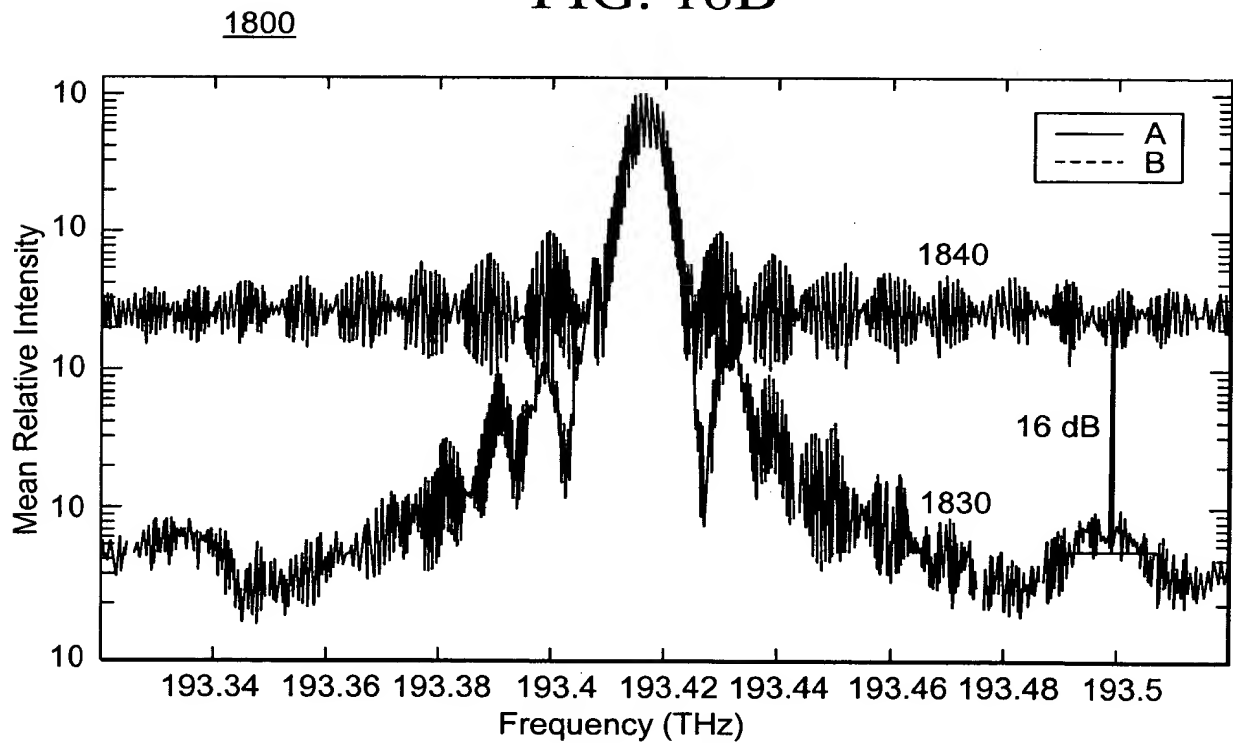


FIG. 18C



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1900

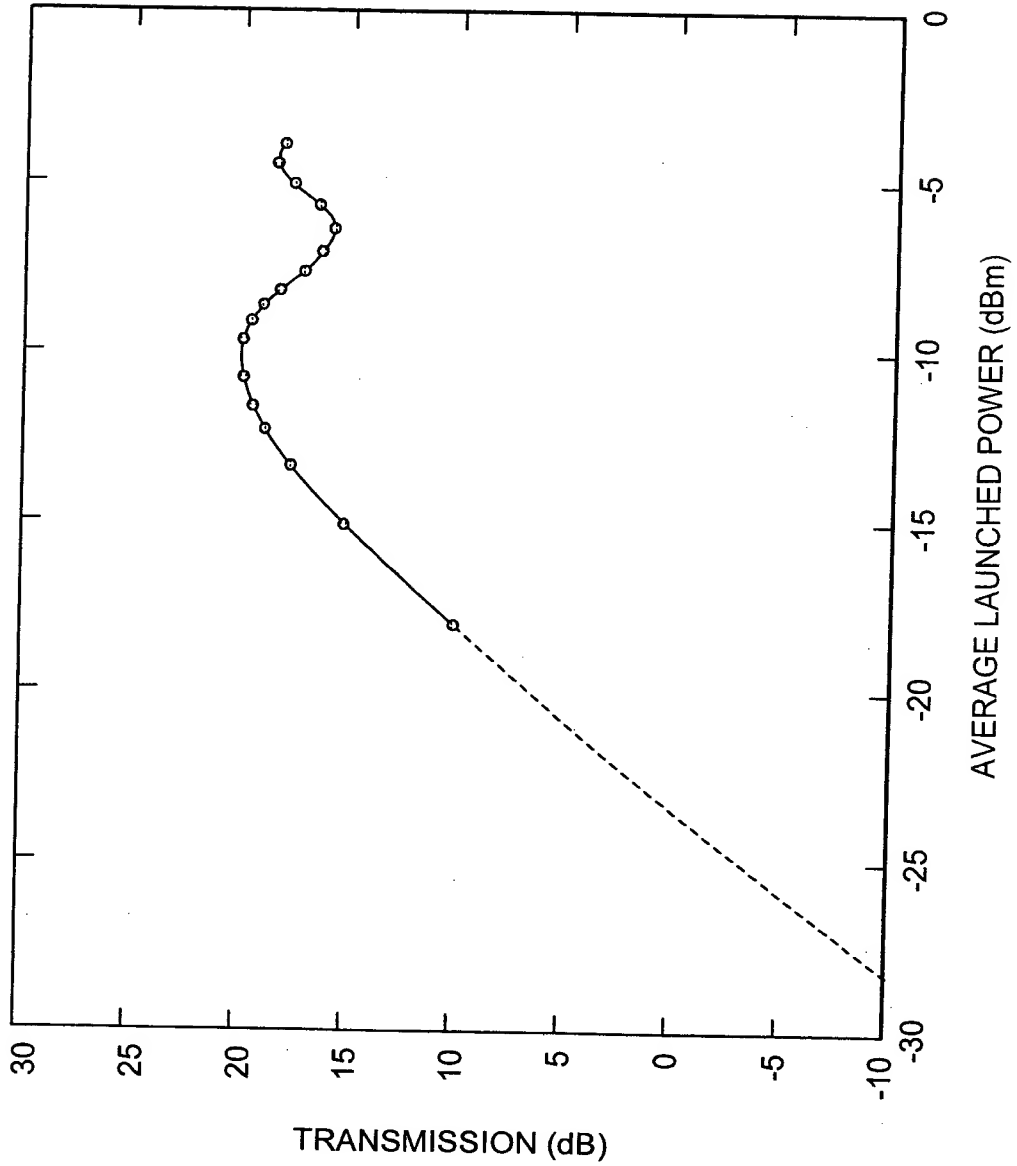


FIG. 19

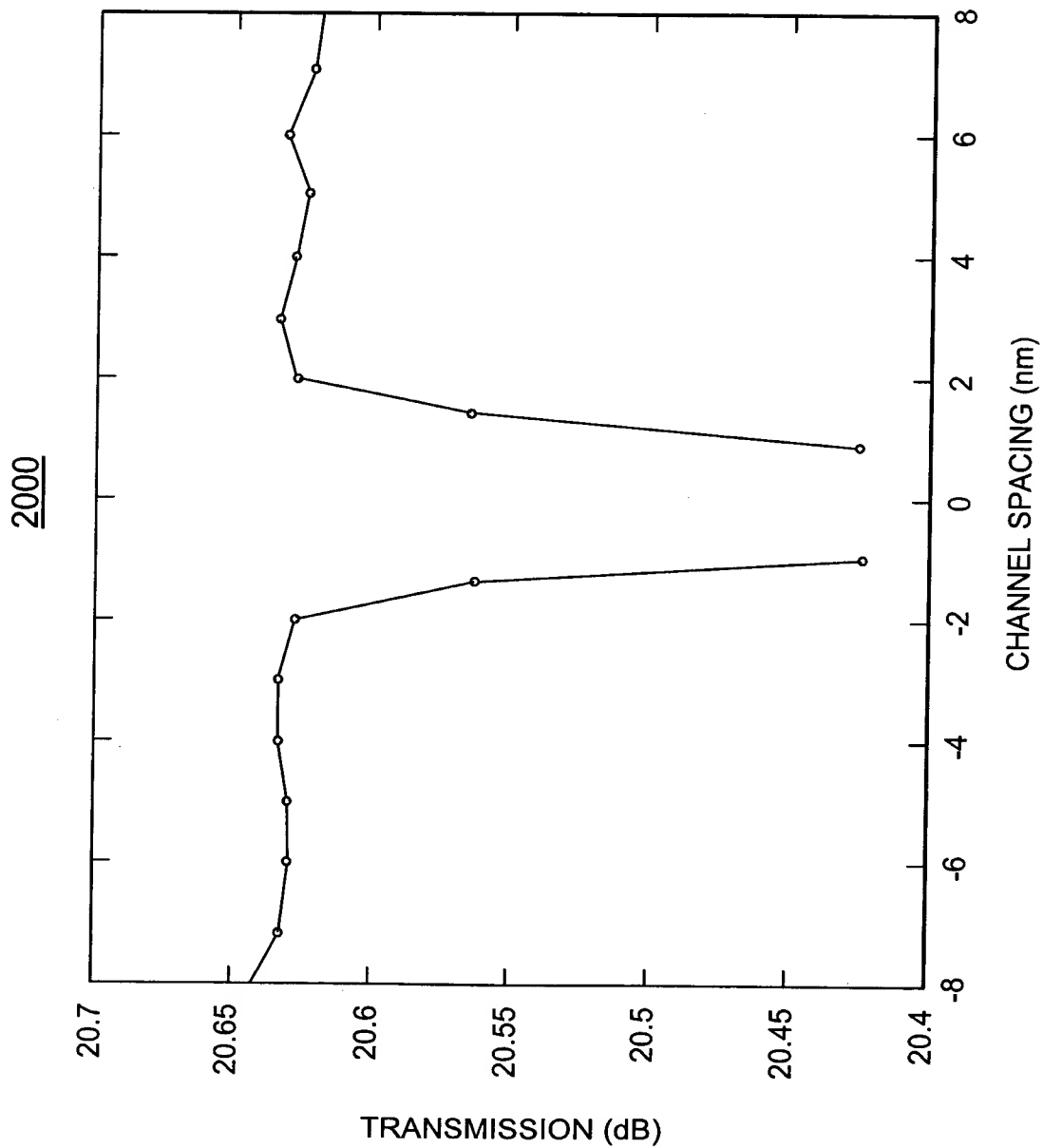


FIG. 20



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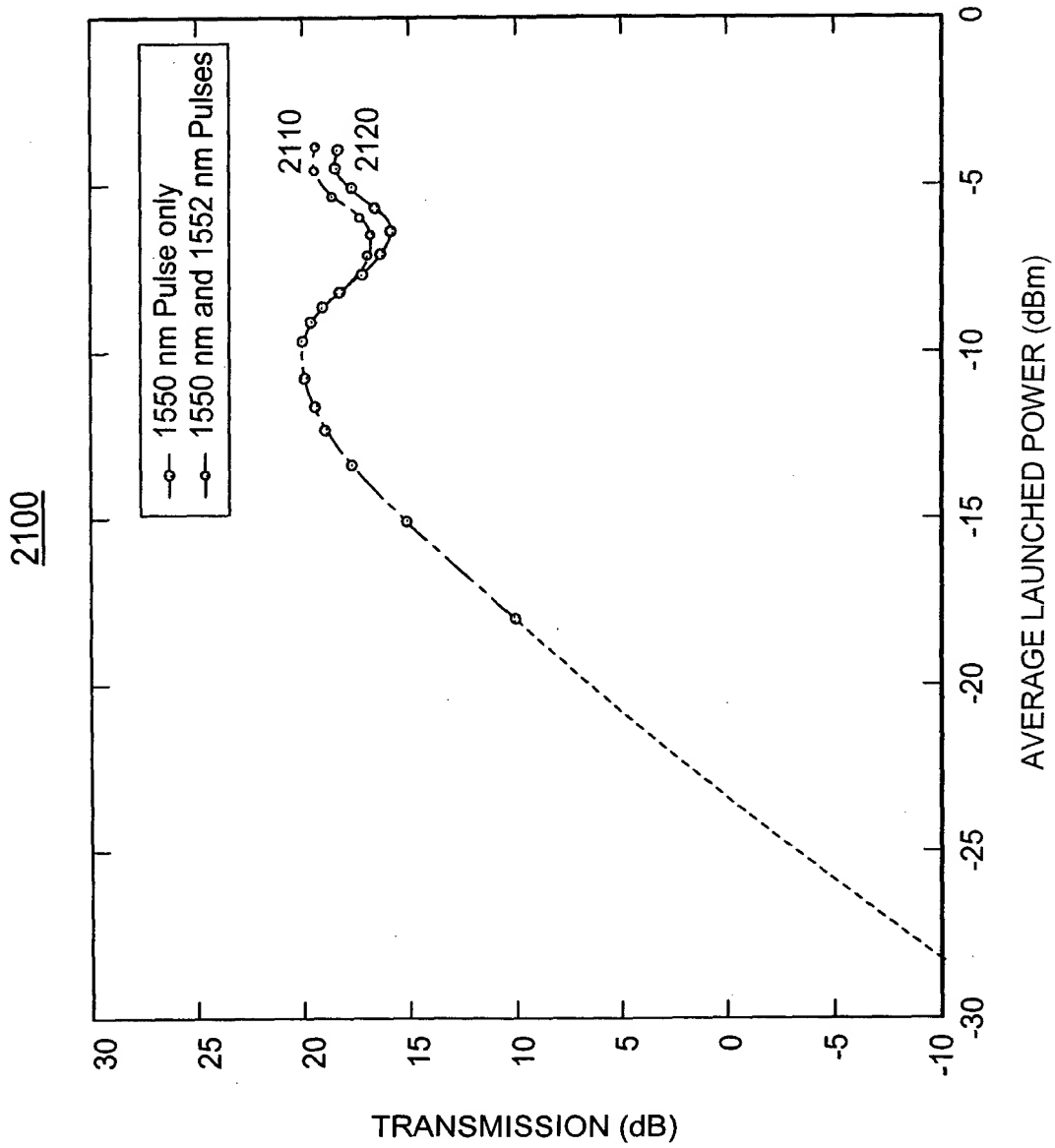


FIG. 21